

In re Appln. of KUMADA et al.
Application No. Unassigned

IN THE TITLE:

Replace the title with:

**VIA-FILLING MATERIAL AND PROCESS FOR FABRICATING
SEMICONDUCTOR INTEGRATED CIRCUIT USING THE MATERIAL**

SPECIFICATION AMENDMENTS

Replace the paragraph beginning at page 1, line 2 with:

The present invention relates to a via-filling material ~~filled~~ deposited in ~~the~~ a via hole when fabricating a multi-layered wiring structure in accordance with ~~the~~ a dual damascene process and a process for fabricating a semiconductor integrated circuit using the via-filling material.

Replace the paragraph beginning at page 2, line 11 with:

Also, as the via-filling material ~~filled~~ deposited in the via hole, photoresist materials, melamine derivatives, guanamine derivatives, glycoluril derivatives, urea derivatives and succinyl amide derivatives are used (see for example, JP-A-2000-195955).

Replace the paragraph beginning at page 2, line 15 with:

In the conventional dual damascene process, the organic materials mentioned above are used as the via-filling material ~~filled in~~ filling the via holes. However, when ~~conducting~~ plasma etching ~~of~~ the upper inter-layer film and the via-filling material in order to form a trench, via-filling material 307 protrudes from upper inter-layer film 302 within trench 310 as shown in Fig. 3, because the etching rate of the via-filling material is lower than the etching rate of the upper inter-layer film.

Replace the paragraph beginning at page 2, line 22 with:

Furthermore, when C_4F_8 is used as an etching gas, fluorocarbon deposition is easily generated from the decomposition in plasma or reaction products. Such deposition often sticks ~~around~~ to the ~~protruded~~ protruding via-filling material and prevents downward plasma etching because the deposition serves as a mask. Accordingly, when the via-filling material in the via hole is removed after completing the simultaneous etching of the upper inter-layer film and via-filling material, ~~deposition a deposit~~ a deposit 308 which is chemically stable and hard to decompose remains in the opening part of via hole 306 as shown in Fig. 4.

Replace the paragraph beginning at page 3, line 4 with:

When ~~deposition~~ a deposit remains in the opening ~~part~~ of via hole, metal lines in the upper layer cannot be formed well, leading to the problem of disconnection in the fabricated semiconductor integrated circuit.

Replace the paragraph beginning at page 6, line 11 with:

~~Fig. 1 is a~~ Figs. 1(a)-1(h) are cross-sectional view views illustrating the steps of fabricating a semiconductor integrated circuit of Embodiment 1 using the via-filling material according to a via-first dual damascene process.

Replace the paragraph beginning at page 6, line 14 with:

~~Fig. 2 is a~~ Figs. 2(a)-2(i) are cross-sectional view views illustrating the steps of fabricating a semiconductor integrated circuit of Embodiment 2 using the via-filling material according to a via-first dual damascene process.